

Remarks

In view of the above amendments and the following remarks, reconsideration of the rejections and further examination are requested.

Claim 1 has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the rejection indicates that the phrase “such as” renders the claim indefinite. Claim 1 has been amended so as to remove the phrase “such as”. As a result, withdrawal of the rejection under 35 U.S.C. §112, second paragraph, is respectfully requested.

Claim 1 has been rejected under 35 U.S.C. §102(e) as being anticipated by Feldstein (US 6,192,168). Claims 1-34, 38-40, 42-47, 81-84 and 86-91 are rejected under 35 U.S.C. §102(b) as being anticipated by Neuschäfer (WO 96/35940). Claims 35-37 are rejected under 35 U.S.C. §103(a) as being unpatentable over Neuschäfer in view of Hashimoto (US 6,480,639). Claims 41 and 85 are rejected under 35 U.S.C. §103(a) as being unpatentable over Neuschäfer.

Claim 1 has been amended so as to clarify the fact that a two-dimensional arrangement of items means that the arrangement of items include at least two items in a length direction and at least two items in a width direction, not that each of the items itself has a length and a width. Further, it is apparent that one of ordinary skill in the art would have understood that this is what is meant by “two-dimensional arrangement”. Therefore, this amendment is clearly supported by specification. As a result, the above-mentioned rejections are traversed for the following reasons.

Claim 1 is patentable over Feldstein and Neuschäfer, since claim 1 recites a device having, in part, a plurality of recesses opening at least towards a sensor platform, which forms a corresponding plurality of sample compartments, the plurality of sample compartments being arranged with at least two sample compartments in a length direction and at least two sample compartments in a width direction, wherein each of the sample compartments has different biological or biochemical recognition elements for specific recognition and binding of different analytes immobilized in five or more discrete measurement areas on a planar optical waveguide, the measurement areas being arranged with at least two measurement areas in a length direction and at least two measurement areas in a width direction. Feldstein and Neuschäfer both fail to disclose or suggest these features of claim 1.

Feldstein discloses a measurement device having a substrate 110 with a number of columns of different recognition species 106 located thereon. Further, the measurement device

has a multi-channel assay cell 108 having a number of flow channels located therein. The substrate 110 and the multi-channel assay cell 108 are positioned such that the flow channels are perpendicular to the columns of recognition species 106. Therefore, when a fluid flows through one of the flow channels, it passes over a portion of each of the columns of recognition species 106. (See Column 10, line 21 – Column 11, line 35 and Figures 8a and 8b).

In the rejection, each of the flow channels of the multi-channel assay cell 108 is relied upon as corresponding to a sample compartment. Further, each of the portions of the recognition species 106 which intersects one of the flow channels is relied upon as corresponding to a measurement area.

Regarding the flow channels (i.e., sample compartments) of Feldstein, claim 1 recites that the claimed sample compartments are arranged with at least two of sample compartments in a length direction and at least two sample compartments in a width direction. In looking at Figure 8b of Feldstein, it is apparent that there is six flow channels arranged in one direction and that this direction can either be construed a width direction of the multi-channel assay cell 108 or a length direction of the multi-channel assay cell 108. However, it is absolutely clear from Figure 8b of Feldstein that there are not at least two flow channels in both the length direction and the width direction of the multi-channel assay cell 108. As a result, the arrangement of the flow channels of the multi-channel assay cell 108 does not correspond to the arrangement of the claimed sample compartments.

Regarding the portions of the recognition species 106 (i.e., the measurement areas) of Feldstein, claim 1 recites that each of the sample compartments has five or more measurement areas arranged with at least two measurement areas in a length direction and at least two measurement areas in a width direction. Again, looking at Figure 8b of Feldstein, it is apparent that each of the flow channels has six recognition species in one direction and that this direction can either be construed as a length direction or a width direction of the respective flow channel. However, it is absolutely clear from Figure 8b of Feldstein that there are not at least two recognition species in both the length direction and the width direction of each of the flow channels of the multi-channel assay cell 108. As a result, the arrangement of the recognition species 106 does not correspond to the arrangement of the claimed measurement areas.

Based on the above discussion, it is clear that Feldstein fails to disclose or suggest the present invention as recited in claim 1.

Neuschäfer discloses a device having a laser diode 13, a coupling-in grating 3 located on a sensor platform 8, a coupling-out grating 3' also located on the sensor platform 8, and a detector 14. A first filter 9 is located between the laser diode 13 and the coupling-in grating 3 and a second filter 9 is located between the coupling-out grating 3' and the detector 14. The sensor platform 8 contains a waveguide 1 such that light enters the waveguide 1 from the coupling-in grating 3 and exits the waveguide 1 from the coupling-out grating 3'. A flow through cell 11 is attached to the bottom of the sensor platform 8 via a plurality of seals 10, thereby creating a sample space 12 between the sensor platform 8 and the flow through cell 11.

Further, Neuschäfer also discloses a waveguiding arrangement having a number of detection regions 4 located on a substrate 5. Each of the detection regions 4 includes the coupling-in grating 3 and, optionally, the coupling-out grating 3' and a number of divisions 2 forming a plurality of strip-like waveguiding regions having recognition elements immobilized thereon. (See page 9, lines 13-27; page 14, lines 6-12; page 21, lines 18-27; page 29, lines 1-17; and Figures 1a, 2a, 3a, 4a, 5a and 6).

In the rejection, the plurality of strip-like waveguiding regions, which have recognition elements immobilized thereon, defined by the divisions 2 are relied upon as corresponding to the claimed plurality of sample compartments. Further, each of the recognition elements immobilized on the waveguiding regions is relied upon as corresponding to a measurement area.

Regarding the recognition elements (i.e., the measurement areas) of Neuschäfer, claim 1 recites that each of the sample compartments has five or more measurement areas arranged with at least two measurement areas in a length direction and at least two measurement areas in a width direction. However, there is no disclosure or suggestion in Neuschäfer that each of the strip-like waveguiding regions has recognition elements arranged with at least two measurement areas in a length direction and at least two measurement areas in a width direction. Further, while Neuschäfer discloses that there are a number of suitable choices for the recognition elements at page 21, lines 19-27, there is no disclosure or suggestion in Neuschäfer that each of the strip-like waveguiding regions has different biological or biochemical recognition elements immobilized in five or more discrete measurement areas as recited in claim 1. Therefore, the broad disclosure of the recognition elements in Neuschäfer does not correspond to the arrangement of the claimed measurement areas. As a result, it is clear that Neuschäfer fails to disclose or suggest the present invention as recited in claim 1.

As for Hashimoto, it is relied upon as disclosing an optically transparent resin 9 and a light absorbent 8. However, Hashimoto fails to disclose or suggest the above-discussed features of claim 1.

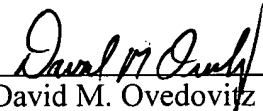
Since claim 1 is patentable over the references relied upon in the rejections, it is submitted that withdrawn claims 48-63 and 92 be given due consideration as being either directly or indirectly dependent from claim 1.

Because of the above-mentioned distinctions, it is believed clear that claims 1-63 and 81-92 are allowable over the references relied upon in the rejections. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 1-63 and 81-92. Therefore, it is submitted that claims 1-63 and 81-92 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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